AMENDMENTS

In the Claims

Please amend the claims as indicated hereafter.

1. – 24. (Canceled)

25. (Previously Amended) The method according to claim 36 wherein said adhesive element is chosen from at least one of chromium, titanium, and silicon.

26. – 32. (Canceled)

33. (Previously Amended) The method according to claim 36 wherein said refractory layer has a thickness of about 800 angstroms.

34. (Canceled)

35. (Canceled)

36. (Previously Presented) A method for forming an ohmic contact on a compound semiconductor layer of a semiconductor device comprising:

depositing a reactive layer on at least a portion of a compound semiconductor layer of a semiconductor device, wherein the reactive layer is nickel and an adhesive element;

depositing a refractory layer on said reactive layer, said refractory layer consisting essentially of titanium, and

wherein additional layers of conductive metal are not deposited on the refractory layer in the forming of the ohmic contact.

37. (Original) The method according to claim 36 wherein said step of depositing a reactive layer comprises depositing a reactive layer on at least a portion of a compound semiconductor layer that comprises $In_xGa_{1-x}As$, InAs, $In_xGa_{1-x}P$, InP, $In_xA1_{1-x}As$, InGaAsP, GaSb, or $In_xGa_{1-x}Sb$, all wherein $0<x<1$.

38. (Original) The method according to claim 36 wherein said step of depositing a reactive layer comprises depositing a reactive layer on at least a portion of a compound semiconductor layer that comprises $In_xGa_{1-x}As$, wherein $0.05<x<1.00$.

39. (Original) The method according to claim 36 wherein said step of depositing a reactive layer comprises depositing a reactive layer on at least a portion of a compound semiconductor layer that comprises $In_xGa_{1-x}As$, wherein $0.3<x<0.8$.

40. (Original) The method according to claim 36 wherein said step of depositing a reactive layer comprises depositing a reactive layer on at least a portion of a compound semiconductor layer that comprises $In_xGa_{1-x}As$, wherein x is approximately 0.6.

41. (Original) The method according to claim 36 wherein said step of depositing a reactive layer comprises depositing a reactive layer on at least a portion of a compound semiconductor layer that comprises InAs.

42. (Previously Amended) The method according to claim 36 wherein said step of depositing a reactive layer comprises depositing a reactive layer comprising from about 5 to about 45 atomic percent of the adhesive element.

43. (Canceled)

44. (Currently Amended) An ohmic contact to a compound semiconductor layer of a semiconductor device having a refractory layer disposed on a reactive layer and a reactive layer disposed on a semiconductor layer, the ohmic contact made by a method comprising:

depositing ~~a~~ the reactive layer on at least a portion of ~~a~~ the compound semiconductor layer of ~~a~~ the semiconductor device, wherein the reactive layer is nickel and an adhesive element;

depositing ~~a~~ the refractory layer on said reactive layer, said refractory layer consisting essentially of titanium, and

wherein additional layers of conductive metal are not deposited on the refractory layer in the forming of the ohmic contact.

45. – 47. (Canceled)

48. (Currently Amended) ~~The ohmic contact of claim 44,~~ An ohmic contact to a compound semiconductor layer of a semiconductor device made by a method comprising:

depositing a reactive layer on at least a portion of a compound semiconductor layer of a semiconductor device, wherein the reactive layer is nickel and an adhesive element;

depositing a refractory layer on said reactive layer, said refractory layer consisting essentially of titanium, and

wherein additional layers of conductive metal are not deposited on the refractory layer in the forming of the ohmic contact, and

wherein the semiconductor device comprises a laser diode, a light emitting diode, a Schottky diode, a field effect transistor, a metal-semiconductor field effect transistor, a metal-oxide-semiconductor field effect transistor, or a high electron mobility transistor.

49. (Previously Amended) The method of claim 36, further comprising:

depositing a dielectric layer onto the refractory layer.

50. (Previously Presented) The method of claim 49, further comprising:

depositing a nitride liner onto a portion of the dielectric layer.

51. (Previously Presented) The method of claim 50, further comprising:

depositing a spacer onto a portion of the nitride liner.

52. – 54. (Canceled)

55. (Currently Amended) ~~The ohmic contact of claim 44, wherein the method further comprises:~~ An ohmic contact to a compound semiconductor layer of a semiconductor device made by a method comprising:

depositing a reactive layer on at least a portion of a compound semiconductor layer of a semiconductor device, wherein the reactive layer is nickel and an adhesive element;

depositing a refractory layer on said reactive layer, said refractory layer consisting essentially of titanium, and

disposing a dielectric layer upon the refractory layer, wherein additional layers of conductive metal are not deposited on the refractory layer in the forming of the ohmic contact.

56. (Previously Amended) The ohmic contact of claim 55, wherein the method further comprises:

disposing a nitride liner onto a portion of the dielectric layer.

57. (Previously Amended) The ohmic contact of claim 56, wherein the method further comprises:

disposing a spacer onto a portion of the nitride liner.

58. - 67. (Canceled)

68. (Previously Presented) The method of claim 36, wherein the compound semiconductor layer is N+ InGaAs.

69. (Previously Added) The method according to claim 36, wherein said refractory layer is entirely free of gold.

70. (Currently Amended) ~~The ohmic contact of claim 44,~~ An ohmic contact to a compound semiconductor layer of a semiconductor device made by a method comprising:

depositing a reactive layer on at least a portion of a compound semiconductor layer of a semiconductor device, wherein the reactive layer is nickel and an adhesive element;

depositing a refractory layer on said reactive layer, said refractory layer consisting essentially of titanium, and wherein said refractory layer is entirely free of gold, and

wherein additional layers of conductive metal are not deposited on the refractory layer in the forming of the ohmic contact.